



Amendment to the Claims:

This listing of claims will replace all prior versions, or listings, of claims in this application.

Listing of Claims

Claims 1-23: Cancelled

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Claim ¹24 (Previously Presented): A method for producing a quartz epitaxial thin film on a substrate, said method comprising:

providing a substrate;

forming a buffer layer of GaN or ZnO on the substrate;

vaporizing, under atmospheric pressure, a source of silicon selected from the group consisting of tetramethoxysilane, tetraethoxysilane, tetrapropoxysilane and tetrabutoxysilane;

depositing quartz on said buffer layer using a catalyst, which is hydrogen chloride, to promote a reaction of the silicon source with oxygen, thereby forming said quartz epitaxial thin film.

Claim 25: Cancelled.

Claim ²26 (Previously Presented): The method of Claim ¹24, comprising producing the quartz epitaxial thin film on the substrate or the buffer layer at a rate of about 3 μm per hour.

Claim ³27 (Previously Presented): The method of Claim ¹24, wherein the quartz epitaxial thin film consists essentially of quartz.

Claim ⁴28 (Previously Presented): The method of Claim ¹24, wherein the substrate is sapphire, silicon or GaAs.

Claim ⁵29 (Previously Presented): The method of Claim ¹24, wherein the source of silicon is heated to a temperature of 50° C to 120° C.

Claim ⁶30 (Previously Presented): The method of Claim ¹24, wherein a temperature of a growth area, for depositing the quartz on the substrate, ranges from 550° C to 850° C.

Claim 3⁷₁ (Previously Presented): The method of Claim 2¹₄, wherein said quartz epitaxial thin film is characterized by an X-ray diffraction profile exhibiting a diffraction peak at $2\theta=50.6^\circ$.

Claim 3⁸₂ (Previously Presented): The method of Claim 2¹₄, wherein an inert gas is employed as a carrier gas to introduce said source of silicon into a growth area.

Claim 3⁹₃ (Previously Presented): The method of Claim 2¹₄, wherein the oxygen partial pressure is 0.1 to 0.3 atm, in the growth area.

Claim 34-41: Cancelled.